



SONET/SDH Trunk Management Software

Key Features

- Supports both SONET and SDH operation
- Manages High Order paths as well as Low Order paths
- Provides full SONET/SDH line maintenance and alarming support, with configurable timers and thresholds for alarm detection
- Polymorphic Device Driver Mapping (PDDM) Methodology allows support different devices to be used for one interface
- Full support for Performance Monitoring both T1.231 and G.826
- Supports F1, F2, S1 bytes, K1K2 and order wire handling
- Provides Trail Trace messages and TIM alarm detection
- Provides Payload Labels and PLM alarm detection
- Fully integrated with Linear APS TMS module
- Supports Asynchronous mapping, Byte Synchronous mapping, and Bit synchronous mapping of T1 and E1s
- Includes Driver for framing device
- Supports Japanese SDH Requirements

Standards Compliance

- Telcordia GR-253-CORE
- ANSI T1.105.01
- ANSI T1.107 and ANSI T1.107a
- ANSI T1.231.04
- ITU-T G.707/Y.1322
- ITU-T G.783
- ITU-T G.784
- ITU-T G.826
- ITU-T G.829

- ITU-T G.832
- ITC JT-G707
- ITC JT-G783

Key Benefits

- Fully Standards Compliant
- Turnkey solution
- OS independent
- Pre-ported to Linux 2.4 and 2.6
- Easy to use APIs
- Sample application included
- ANSI C Source Code
- Driver Included
- Field proven by multiple customers
- Software deployed worldwide
- Zero defect policy

With NComm's proven source code and protocol stack, you have the quality and standard compliance interfaces that you need for less cost than you can do it yourself.

Product Overview

NComm's SONET/SDH Trunk Management Software provides a complete software solution for the implementation of a range of SONET/SDH systems.

It consists of a set of software modules that perform line configuration, alarming, performance monitoring.

The SONET/SDH software is completely data driven, allowing operating mode, alarm timers, and thresholds to be configurable on a static or run time basis.

Additionally, NComm's SONET/SDH TMS device driver mapping methodology permits potentially **many** device drivers to appear as **one**

virtual device to the SONET/SDH software.

The suite includes two levels of ANSI-C Application Programming Interfaces (APIs), encapsulating the details of SONET/SDH operation and the underlying hardware elements, and provides a clean integration to the target systems' operating environment.

NComm's SONET/SDH TMS is supplied as ANSI C source code. User manuals, implementation training and technical support are also included with each license. A sample demo application provides functionality very quickly. This sample application also functions as a guide for integration of the SONET/SDH TMS API into the upper management or control systems of your choice.

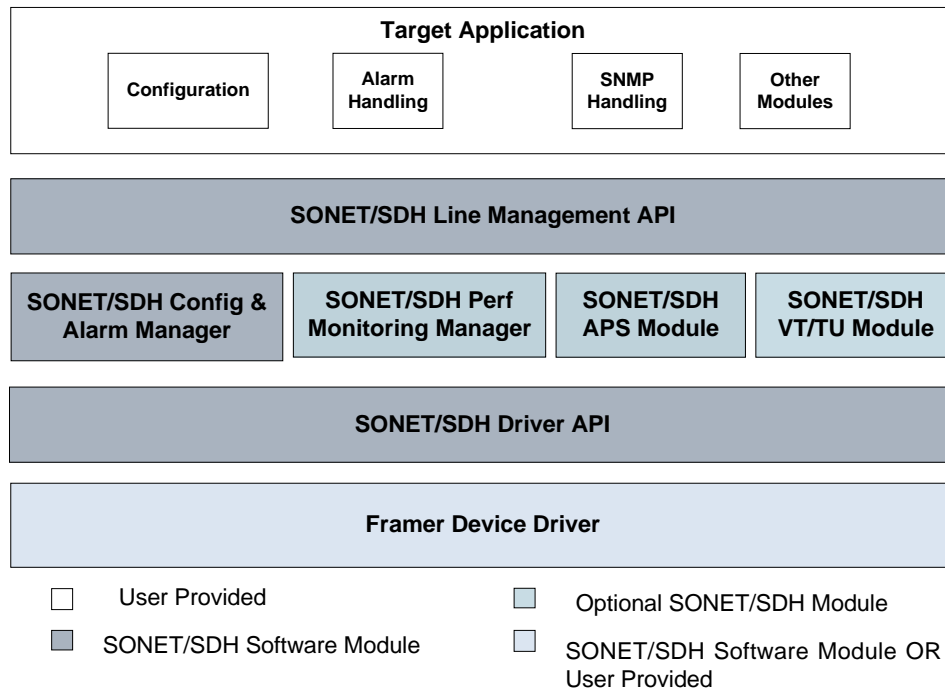
Applications

- Central Office Switches
- SONET/SDH multiplexers
- Routers
- Add/Drop Multiplexers
- Access Devices

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SONET/SDH OAM TMS Architecture

As in the entire TMS family of OAM software, SONET/SDH TMS is architected to be hardware and operating system independent. Well-defined APIs are employed for faster first time integration and ease of reuse.



OAM TMS Software Architecture

The SONET/SDH Software API is comprised of a set of ANSI C functions and macros that encapsulate all functionality and data of the SONET/SDH Software. The API provides a clean interface to the SONET/SDH Software simplifying the integration of the SONET/SDH Software to the target application. The target application is implemented on top of the SONET/SDH Line API layer, using the API to access all functionality provided by the SONET/SDH Software.

The SONET/SDH Configuration and Alarm Manager Module (CAM) provides the interface points for administering and configuring any of the STS-1/OC-n lines being controlled by the SONET/SDH TMS. The CAM defines the line interface rate -OC-1 thru OC-192, structure of the interface—line, path, section & virtual tributaries and alarm conditions definable per type of alarm and per structure of the interface. The CAM also communicates with the PMM for processing performance reports.

The SONET/SDH Performance Monitoring Manager Module (PMM) will collect performance data as specified in ANSI T1.231 or G.826. The PMM will collect performance statistics for both the near end and far end of the SONET/SDH Interface. Performance data is collected for the

past 24 hours in 15 minute buckets plus summary information. In addition, the PMM supports collections of data locked to the time of day. The PMM supports threshold-crossing alerts, when enabled, the alerts will inform the application when a threshold has been exceeded and take the appropriate action. The application can retrieve performance information upon request to the PMM for both near end and far end.

The Device Driver and its associated API provides the interface between the SONET/SDH Software and the driver device. Hardware implementations of OC-n systems and VT-n systems may involve various and mixed devices that access different sub-levels of an OC or STS/STM signal. To accommodate this potential, the SONET/SDH TMS has a Polymorphic Device Driver Mapping Methodology that permits many device drivers to appear as one virtual device to the SONET/SDH Software; this methodology maintains a commonality in general device driver development. The SONET/SDH Driver API is comprised of a set of ANSI C functions and macros that handle the interaction with the device.